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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/684,463

10/06/2000

Timothy H. Daubenspeck

BUR9-2000-0075-US1

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7590

03/20/2003

ARLEN L. OLSEN
SCHMEISER, OLSEN & WATTS
3 LEAR JET LANE
SUITE 201
LATHAM, NY 12110

EXAMINER

SEFER, AHMED N

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,463

Applicant(s)

DAUBENSPECK ET AL.

Examiner

A. Sefer

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 1/7/03 has been entered and claims 5 and 6 have been cancelled.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-4, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Machida et al. US Patent No. 5,041,897.

Machida et al. disclose in fig. 1 a semiconductor device comprising a substrate; at least one fuse 12 embedded within an interior portion of the substrate; a continuous etch resistant layer 16 comprising silicon nitride (as in claim 7) having a thickness which

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falls within the recited range (as in claim 8) over the at least one fuse; and at least one insulative layer 17 above the etch resistant layer, wherein the etch resistant layer has a slower etch rate than that of the at least one insulative layer thereabove.

As to claims 2 and 3, Machida et al disclose an alignment mark 13 comprising the etch resistant layer thereover (as in claim 3) formed on the substrate at a location spatially removed from the fuse.

As to claim 4, Machida et al disclose a fuse and an alignment mark formed within a metal wiring layer of the device.

4. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (JP 11-54627).

Lee et al. disclose in fig. 3 a semiconductor device comprising a substrate; at least one fuse 36 embedded within an interior portion of the substrate; a continuous etch resistant layer 40 over the at least one fuse; and at least one insulative layer 41 above the etch resistant layer, wherein the etch resistant layer has a slower etch rate than that of the at least one insulative layer thereabove.

As to claim 2, Lee et al disclose an alignment mark 30 formed on the substrate at a location spatially removed from the fuse.

As to claim 4, Lee et al disclose a fuse and an alignment mark formed within a metal wiring layer of the device.

5. Claims 1 and 7 is rejected under 35 U.S.C. 102(e) as being anticipated by Stamper US Patent No. 6,111,301.

Stamper discloses in fig. 1 a semiconductor device comprising a substrate;

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at least one fuse 6 embedded within an interior portion of the substrate; a continuous etch resistant layer 5 comprising silicon nitride (as in claim 7) over the at least one fuse; and at least one insulative layer 8 above the etch resistant layer, wherein the etch resistant layer has a slower etch rate than that of the at least one insulative layer thereabove.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stamper in view of Motsiff et al. US Patent No. 5,731,624.

Stamper discloses the device structure as recited in the claim, but does not specifically disclose an alignment mark.

Motsiff et al disclose an alignment mark 7 comprising an etch resistant layer (as in claim 3) formed on the substrate at a location spatially removed from the fuse.

As to claim 4, Motsiff et al disclose a fuse and an alignment mark formed within a metal wiring layer of the device.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sugimoto (JP 11-121623) discloses a plurality of fuse elements having an alignment mark formed in an empty region where a fuse is not formed.

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9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on (703) 308-6601.

ANS
March 12, 2003


NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800